

CLAIMS

1. A dual stage current limiting surge protector system for protecting telecommunications equipment and the like from power and transient surges, comprising:

input tip and ring terminal pins;

output tip and ring terminal pins;

voltage suppressor means having first and second ends operatively coupled between said input tip and ring terminal pins;

the first and second ends of said voltage suppressor means being also operatively coupled between said output tip and ring terminal pins;

first and second current limiting devices interconnected between said input tip and ring terminal pins and the respective first and second ends of said voltage suppressor means; and

third and fourth current limiting devices interconnected between said output tip and ring terminal

pins and the respective first and second ends of said voltage suppressor means.

2. A dual stage current limiting surge protector system as claimed in Claim 1, wherein each of said third and fourth current limiting devices has a lower rated current value than each of said first and second current limiting devices.

3. A dual stage current limiting surge protector system as claimed in Claim 1, wherein each of said third and fourth current limiting devices has a rated current value of about 175 ma and each of said first and second current limiting devices has a rated current value of about 350 ma.

4. A dual stage current limiting surge protector system as claimed in Claim 1, wherein each of said third and fourth current limiting devices has a rated current value of about 80 ma and each of said first and second current limiting devices has a rated current value of about 160 ma.

5. A dual stage current limiting surge protector system as claimed in Claim 1, wherein said voltage suppressor means is comprised of a silicon avalanche suppressor.

6. A dual stage current limiting surge protector system as claimed in Claim 1, wherein said voltage suppressor means is comprised of a sidactor.

7. A dual stage current limiting surge protector system as claimed in Claim 1, wherein said voltage suppressor means is comprised of a gas discharge tube.

8. A dual stage current limiting surge protector system as claimed in Claim 1, further comprising second voltage suppressor means operatively coupled between said output tip and ring terminal pins.

9. A dual stage current limiting surge protector system for protecting telecommunications equipment and the like from power and transient surges, comprising:

input tip and ring terminal pins;

output tip and ring terminal pins;

voltage suppressor means having first and second ends operatively coupled between said input tip and ring terminal pins;

the first and second ends of said voltage suppressor means being also operatively coupled between said output tip and ring terminal pins;

first and second fuse elements interconnected between said input tip and ring terminal pins and the respective first and second ends of said voltage suppressor means; and

third and fourth current fuse elements interconnected between said output tip and ring terminal

pins and the respective first and second ends of said
voltage suppressor means.

10. A dual stage current limiting surge protector system as
claimed in Claim 9, wherein each of said third and fourth fuse
elements has a lower rated current value than each of said first
5 and second fuse elements.

11. A dual stage current limiting surge protector system as
claimed in Claim 9, wherein each of said third and fourth fuse
elements has a rated current value of about 175 ma and each of said
5 first and second fuse elements has a rated current value of about
350 ma.

12. A dual stage current limiting surge protector system as
10 claimed in Claim 9, wherein said voltage suppressor means is
comprised of a silicon avalanche suppressor.

13. A dual stage current limiting surge protector system as
claimed in Claim 9, wherein said voltage suppressor means is
15 comprised of a sidactor.

14. A dual stage current limiting surge protector system as claimed in Claim 9, wherein said voltage suppressor means is comprised of a gas discharge tube.

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15. A dual stage current limiting surge protector system as claimed in Claim 9, further comprising second voltage suppressor means operatively coupled between said output tip and ring terminal pins.

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25 16. A dual stage current limiting surge protector system for
protecting telecommunications equipment and the like from power and
transient surges, comprising:

input tip and ring terminal pins;

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output tip and ring terminal pins;

voltage suppressor means having first and second
ends operatively coupled between said input tip and ring
35 terminal pins;

the first and second ends of said voltage suppressor
means being also operatively coupled between said output
tip and ring terminal pins;

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first and second positive thermal coefficient
resistors interconnected between said input tip and ring
terminal pins and the respective first and second ends of
said voltage suppressor means; and

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third and fourth positive thermal coefficient
resistors interconnected between said output tip and ring

terminal pins and the respective first and second ends of said voltage suppressor means.

17. A dual stage current limiting surge protector system as claimed in Claim 16, wherein each of said third and fourth positive thermal coefficient resistors has a lower rated current value than
5 each of said first and second positive thermal coefficient resistors.

18. A dual stage current limiting surge protector system as claimed in Claim 16, wherein each of said third and fourth positive thermal coefficient resistors has a rated current value of about 80 ma and each of said first and second positive thermal coefficient resistors has a rated current value of about 160 ma.

19. A dual stage current limiting surge protector system as claimed in Claim 16, wherein said voltage suppressor means is comprised of a silicon avalanche suppressor.

20. A dual stage current limiting surge protector system as claimed in Claim 16, wherein said voltage suppressor means is comprised of a sidactor.

21. A dual stage current limiting surge protector system as claimed in Claim 16, wherein said voltage suppressor means is comprised of a gas discharge tube.

22. A dual stage current limiting surge protector system as claimed in Claim 16, further comprising second voltage suppressor means operatively coupled between said output tip and ring terminal pins.